Improving Our Future Capabilities with the Integrated Deepwater System

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The U.S. coastline presents an array of attractive targets to terrorists who may exploit our relatively open borders and waterways to infiltrate weapons and operatives into the United States. These targets are a complex, interdependent system of critical infrastructure located within the marine transportation system. This system encompasses a network of navigable waters, publicly and privately owned vessels, port terminals, intermodal connections, shipyards, vessel repair facilities, and a trained labor pool operating and maintaining this infrastructure. Attacks on these targets could damage critical military facilities, shut down vital economic hubs and cause economic and environmental disasters.

As a result of the September 11 attacks, the U.S. Coast Guard was designated the lead agency for maritime homeland security (MHLS). The MHLS mission requires the United States to strike a vital balance between facilitating the free flow of goods and services and protecting national security. This presents a formidable task. Thousands of watercraft in an enormous area make it extraordinarily difficult to sort out illicit traffic—the United States has more than 95,000 miles of coast and an Exclusive Economic Zone covering more than 3.5 million square miles. The Coast Guard must also operate in a wide variety of environments, from Arctic waters to the Caribbean and Pacific. The amount of traffic involved is also daunting. More than 7,500 foreign-flag ships visit the United States every year, many with multinational crews and cargo. Some experts believe that maritime trade could triple by 2020.

The potential for terrorist attacks in this maritime domain and the responsibility of protecting American lives, property, and interests in the nation's inland waterways, in nearby coastal waters, and on the high seas are two reasons why the Coast Guard's current Deepwater assets must be upgraded and progressively recapitalized. Current Deepwater assets are reaching the end of their useful service lives. They are technologically and operationally obsolete. There is a compelling need to modernize and enhance the operational capabilities of these assets to ensure that national maritime security and safety requirements can be met as well as supporting our additional mission areas.

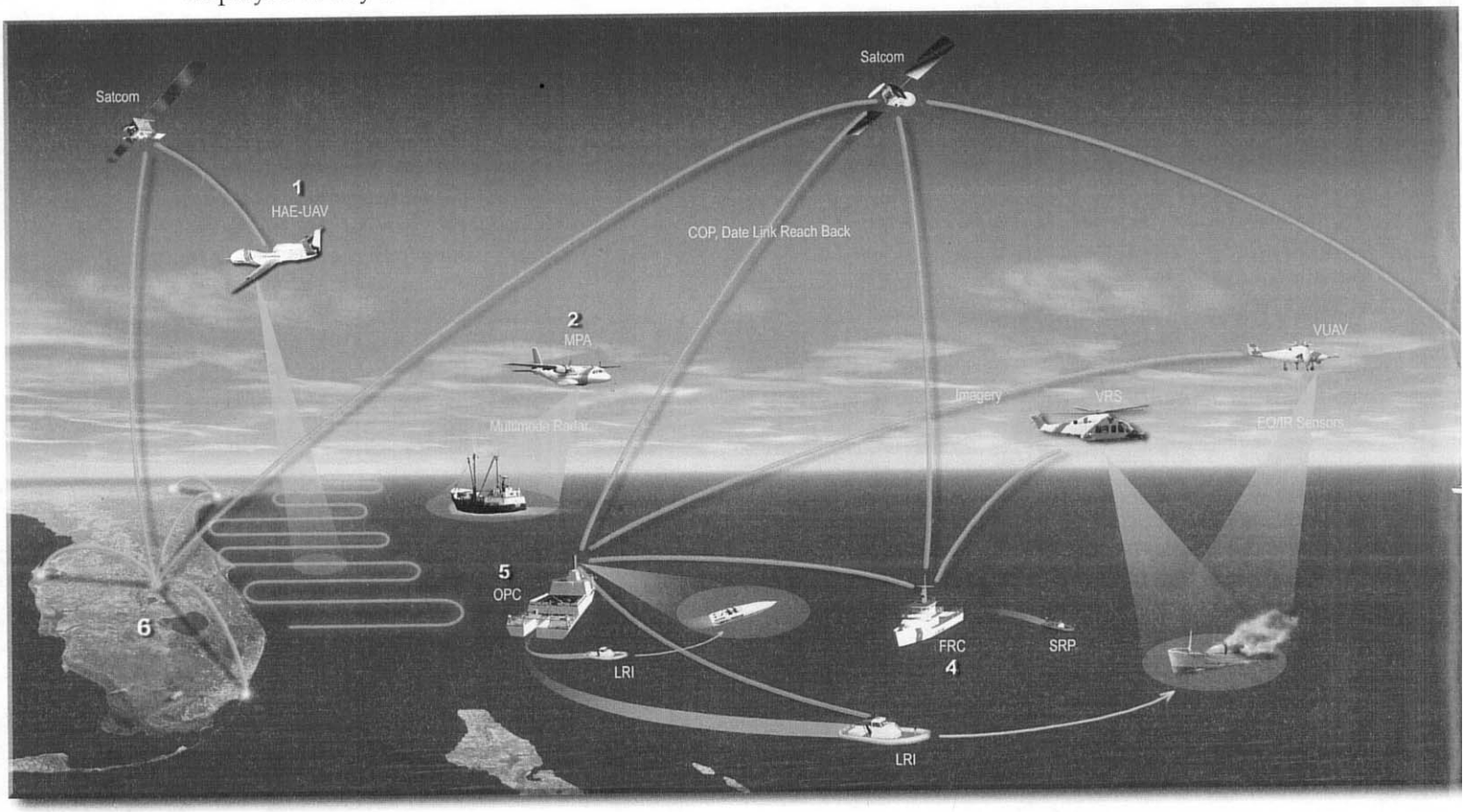
To address these shortfalls, the Coast Guard established the Integrated Deepwater System (IDS) Program. IDS is an acquisition project to renovate, modernize and/or replace the Coast Guard's Deepwater assets with an integrated system of surface and air platforms, along with command, control, communications, computers, intelligence, surveillance, reconnaissance (C4ISR) and logistics systems. Rather than focusing on a specific class of cutter or aircraft, the Coast Guard has focused on the capability to perform all of its 14 federally mandated missions in the Deepwater region,

including countering terrorist threats, rescuing mariners in distress, catching drug smugglers, stopping illegal migrants, and protecting the marine environment. The new IDS assets will possess common systems and technologies, common operational concepts, and a common logistics base. When fully implemented, the Deepwater system will give the Coast Guard a significantly improved ability to perform each of its missions, along the U.S. coast or in its harbors and ports or far from U.S. borders. This will include the ability to detect and identify all activities in the maritime arena—known as maritime domain awareness (MDA)—as well as the improved ability to intercept and engage those activities that pose a direct threat to U.S. sovereignty and security.

The Coast Guard's ability to respond so rapidly to the attacks on the World Trade Center and the Pentagon validated its reputation as an effective, multi-mission force. Coast Guard forces previously assigned to law-enforcement operations—including 55 cutters, 42 aircraft, and thousands of Coast Guard men and women—were immediately reassigned to homeland security tasks. Cutters patrolled offshore and in U.S. harbors to maintain a deterrent presence and escort cruise ships, tankers, and other high-value units into and out of American ports. Coast Guard Port Security Units, normally staged overseas, were deployed in several U.S. ports. Coast Guard personnel also were employed as Sky Marshals on commercial airliners and as Sea Marshals onboard commercial shipping. As always, the Coast Guard responded with speed and agility to the threat at hand.

The Coast Guard has always played a critical role in securing the American homeland. The Deepwater Program provides an unprecedented opportunity to strengthen our fleet, providing the men and women of the Coast Guard the capabilities needed to perform these missions as well as future missions well into the 21st century. On June 25, 2002, the Coast Guard awarded the Deepwater contract to Integrated Coast Guard Systems (ICGS), a joint venture between Lockheed Martin and Northrop Grumman. This long-term relationship between the Coast Guard and the system integrator (SI), ICGS, promises to deliver to the men and women of the Coast Guard an integrated system of ships, aircraft, unmanned aerial vehicles, improved C4ISR and supporting logistics infrastructure.

While many people believe that homeland security missions only take place close to shore (such as port security missions), the truth is that a successful MHLS strategy must push out U.S. borders to sea if threats are to be detected and eliminated well before they reach the shore. Interdicting threats to homeland security as far from shore as possible has become more vital as potential adversaries have lengthened their reach. Any other strategy takes unnecessary risks with our national security. IDS assets will be designed with the speed and weapon-



ry needed to interdict and eliminate identified threats.

Deepwater assets require the flexibility to confront a wide range of challenges. The multi-mission design of Deepwater assets will enable the Coast Guard to respond to an array of threats, protecting critical infrastructure in U.S. ports and harbors as well as far out to sea. Deepwater assets will be designed to maintain an extended on-scene presence and provide an optimal command and control capability. Finally, the IDS solution provides an affordable means for our allies to participate in a common effort to improve interoperability in our respective naval forces. Each of these capabilities contributes to the Coast Guard's homeland security strategy and is an essential element of American safety and security on our maritime front lines.

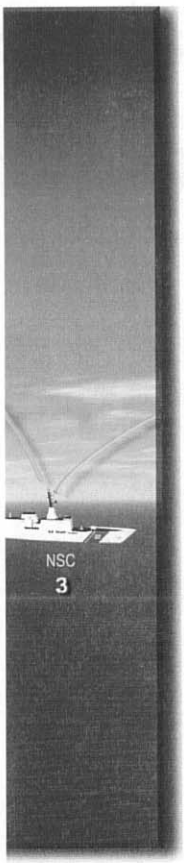
The Coast Guard's MHLS strategy complements the president's national strategy for homeland security. In this national strategy, there are three broad objectives to be accomplished:

1. Prevent terrorist attacks within the United States;
2. Reduce America's vulnerability to terrorism; and
3. Minimize the damage and recover from attacks that do occur.

The national homeland security strategy is a sound strategy that depends primarily on sharing information, securing U.S. borders, protecting vital infrastructure, partnering with others at home and abroad, and preparing to respond quickly to future events. The modernization of the Coast Guard's cutters and aircraft, complemented with modern C4ISR capability through the IDS Program, is essential to the Coast Guard's ability to execute this strategy effectively.

Deepwater assets will contribute important capabilities to each of the Coast Guard's six elements of homeland security strategy, as well as meeting the president's strategy for homeland security:

1. Increase MDA–build and leverage MDA to create a comprehensive knowledge base for maritime security operations;
2. Conduct enhanced maritime security operations–establish and maintain a new threshold level of maritime security readiness, including layered maritime security operations for selective area control and denial, heightened levels of emergency preparedness, and a targeted response to the threat of terrorism;
3. Close port security gaps–strengthen the port security posture and reduce the vulnerability of strategic economic and military ports;
4. Build critical security capabilities–develop required capabilities, improve core competencies, and recapitalize the Coast Guard



Interoperability Scenario

HAE-UAV = High Altitude Endurance Unmanned Aerial Vehicle
MPA = Maritime Patrol Aircraft
NSC = National Security Cutter
FRC = Fast Response Cutter
TOI = Target of Interest
VUAV = VETOL (Vertical Take-off and Landing) Unmanned Aerial Vehicle
OTH = Over The Horizon
VRS = VETOL Recovery and Surveillance Aircraft
OPC = Offshore Patrol Cutter
LRI = Long Range Interceptor

1 HAE–UAV Wide-Area Surveillance
Florida coast is surveyed for drug activity; HAE–UAV then flies to northeast to patrol fisheries and continues north to locate iceberg position; real-time data sent ashore and integrated into common operating picture.

2 MPA Prosecution
MPA flies from Cape Cod; detects, classifies and identifies fishery violator; prosecution completed by imaging the boat in closed area.

3 NSC Interoperability with DOD
NSC deployed with DOD and participates in NATO exercise in North Sea.

4 Multi-Asset Operations
FRC receives TOI data from an OPC (including VUAV data) and a VRS; supports rescue mission.

5 Over–the–Horizon Operations
OTH prosecution conducted by LRI; data from VUAV and HAE–UAV allows OPC to perform simultaneous prosecutions.

6 Shore–Based Command Center
HAE–UAV relays surveillance information via SATCOM to shore command center; center relays information and Drug Enforcement Administration intelligence reports into the command operating picture and cues OPC and FRC via SATCOM.

Dr. Vance D. Coffman, CEO of Lockheed Martin (front); Rear Adm. Thomas H. Collins, Commandant of the Coast Guard (center); and Dr. Ronald D. Sugar, President of Northrop Grumman, sign contracts which award Lockheed Martin and Northrop Grumman with the Coast Guard's Deepwater contract. Photo by Telfair H. Brown, USCG.

for maritime security operations;

5. Leverage partnerships to mitigate security risks–organize and sustain a public-private sector partnership, while increasing international cooperation; and
6. Ensure readiness for homeland defense operations–prepare, equip, and train forces to conduct both homeland security and homeland defense operations and to transition smoothly between them.

Achieving MDA—the comprehensive information, intelligence, and knowledge of all relevant entities within the U.S. maritime domain and their respective activities that could affect America's security, safety, economy, or environment —allows the Coast Guard to anticipate and respond to potential threats in a timely fashion, as well as optimize the deployment of valuable assets. Deepwater will improve the Coast Guard's existing C4ISR capabilities, enabling a common operational picture (targets of interest, ships, geospatial data, cargoes, port facilities, trade routes, personnel manifests, etc.), thereby improving risk assessments of terrorist and criminal activity in the maritime domain. In addition, Deepwater's improved C4ISR system will be interoperable with the Navy and other federal agency systems to provide MDA and improve domestic interagency communication and coordination.

An explanation of the Deepwater task sequence—surveil, detect, classify, identify, and prosecute (SDCIP)—is important to understanding how Deepwater's design contributes to MHLS. The Coast Guard's missions performed in the Deepwater environment follow the SDCIP task sequence. This mission execution sequence was derived from a review of operational tactics past and present, across all missions and across all maritime services. The process starts with surveilling vast areas of the seas. Surveillance detects objects. These objects are then classified as either a target of interest (TOI) or as friendly. The object is then identified, for example, as a vessel, debris, etc. Those objects classified as TOIs mandate some form of prosecution. Prosecution can entail saving someone in the water, sending an armed boarding party onto the TOI for law-enforcement action, or delivering ordnance on target. A combination of air and surface assets can be employed to conduct these missions. The SI's system concepts, developed in accordance with IDS minimum performance requirements, are designed to provide the Coast Guard with a system of assets to execute this task sequence better.

Consequence management is another important aspect of MHLS. It is quite possible that another attack will occur despite our best efforts at prevention. The Deepwater Program's investments in command and control infrastructure, as well as cutter and aircraft capabilities, will enable faster, better-coordinated responses to terrorist incidents. These capabilities will be essential for the Service to build on its impressive track record of consequence management.

Cooperation between the Navy and Coast Guard is another essential component of safeguarding MHLS. Deepwater will enhance this cooperation, enabling the Coast Guard to meet its obligations under the National Fleet agreement, which addresses the operational integration of our units, as well as synchronized planning, training, and procurement between the two services. Homeland security and defense are key elements of the national fleet policy, and the Navy and Coast Guard are working to ensure that scarce resources—our people, our ships, and aircraft, and the taxpayers' dollars—are allocated to meet the most critical needs confronting the nation. Last April, the Deepwater Program Executive Officer signed a Memorandum of Understanding (MOU) with Rear Adm. Charles Hamilton, the Navy's Deputy Program Executive Officer for Ships. This MOU will ensure the Deepwater Program is totally interoperable and compatible with Navy platforms. It provides the mechanism for the Coast Guard and the Navy to explore areas of technical commonality such as C4ISR systems, combat

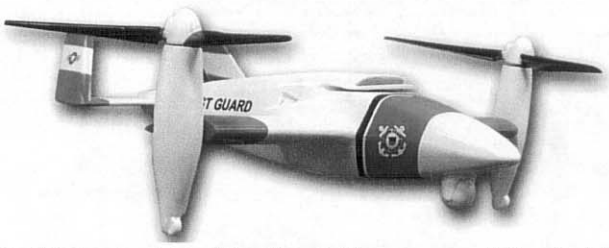
systems, modularity, human systems integration and automation, air and surface interfaces, and total ship computer environments. Modernizing the Coast Guard fleet will enhance joint missions, including enforcement of economic sanctions and force protection.

The ICGS' proposed implementation plan is based on the Coast Guard's 1998 mission profile and notional funding levels. The actual implementation schedule, asset types, and numbers of assets may vary, based on updated mission requirements and actual funding provided. However, ICGS proposed three new classes of cutters and their associated small boats, a new fixed-wing manned aircraft fleet, a combination of new and upgraded helicopters, and both cutter-based and land-based unmanned air vehicles (UAVs). All of these highly capable assets are linked with state-of-the-art C4ISR systems and supported by an integrated logistics system.

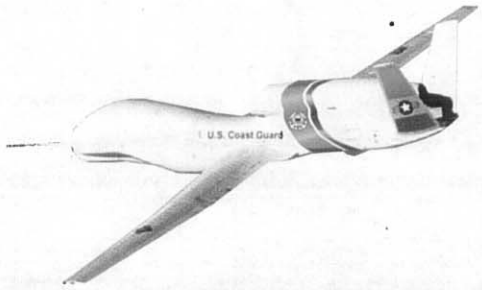
President Bush has acknowledged the critical importance of modernizing the Coast Guard. In February he stated, ". . . I hold in high esteem the United States Coast Guard. We've got a plan to beef up the Coast Guard, to modernize her ships, to make sure the Coast Guard is available around all the coasts of the country to protect the homeland." The president was referring to the Deepwater Program. To demonstrate his support of the Coast Guard and the Deepwater Program, the budget for fiscal year (FY)03 requested the largest increase in the history of the Coast Guard. This trend continued with the President's proposed budget for FY 2004. In the President's national strategy for homeland security, it is noted that the President is committed to building a strong and effective Coast Guard. His proposal calls for providing the necessary resources to acquire the sensors, command-and-control systems, shore-side facilities, boats and cutters, aircraft, and people the Coast Guard requires to perform all of its missions.

The Coast Guard has demonstrated time and time again its devotion to duty and its devotion to the safety and security of the American people. The Integrated Deepwater System, supported by our partners in industry, promises to bring to the men and the women of the Coast Guard the necessary tools to maintain operational excellence at an affordable cost well into the 21st century.

Integrated Deepwater System: A System of Systems



Bell Eagle Eye Vertical Unmanned Aerial Vehicle



Global Hawk High Altitude Endurance Unmanned Aerial Vehicle

Long-Range Interceptor

AB-139 VRA, Recovery and Surveillance Aircraft

National Security Cutter